diseased blood-vessels. In some sections, however, the fibers were involved and varied in shape, some being beady and others split. It was interesting to compare this method with other stains, as Kaplan's axis cylinder stain, which stains a cement substance in the medullary sheath, called by him the axostrome. This substance is histologically and chemically associated with the sheath. The axostrome picture of old sclerotic patches seems perfectly normal, while in fresh patches on the other hand, the axostrome stain, showed fibers in places where there were none by the Weigert stain. Therefore, the author concludes there are two categories in the axis cylinders of sclerotic patches, (1) those in which the axostrome is retained, (2) those in which the axostrome is lost. The axostrome free fibers are well shown by the silver impregnation method, and in most cases cannot be distinguished from medullated fibers. Bielschowsky believes that the axis cylinder processes seen by his method of impregnation are the remains of the old fibers, and that this makes easier the comprehension of multiple sclerosis, and that it explains the absence of secondary degeneration.

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DEUTSCHE ZEITSCHRIFT FUER NERVENHEILKUNDE

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10. Contribution to the Pathology and Pathological Anatomy of Toxic Polyneuritis After the Employment of Sulfonal. ERBSLOH.
11. The Sensible and Motor Segmental Localization for the Most Important Nerves of the Brachial Plexus. BIKELES and FRANKE.
12. Cerebral and Spinal Reflexes. V. KORNILOW.
13. Thermoanesthesia and Analgesia as Symptoms of Focal Disease of the Base of the Brain. A Clinical Sketch. ROSSOLIMO.
14. Casuistic Contribution to the Differential Diagnosis of Multiple Sclerosis, Particularly as Compared with Cerebral and Cerebrospinal Syphilis. PINI.
15. Actual and Apparent Paralysis of the Serratus. BIRO.
16. The Participation of the Neuroglia in the Formation of Scars in the Brain. EDUARD MÜLLER.
17. Three Cases of Chronic Progressive Chorea, L. MÜLLER. (Chorea Hereditaria, and the Chorea of Huntington.)
18. Brief Communications. Aphorisims upon Psychical Diet. LAQUER.

10. *Toxic Polyneuritis in Sulfonal.*—Erbsloh reports the case of a woman suffering from carcinoma of the cervix. She had had repeated hemorrhages, and had become profoundly anemic. In the course of five days she received 150 gr. of sulphonal in order to control insomnia. Five days later she developed pain in the calves, followed by paralysis, first in the legs and then in the arms. Curiously the feet and hands were the last parts affected. Within 16 days the paralysis had involved the muscles of respiration, and the patient died. The urine contained haematoporphyrin. Mentally she had hallucinations, and towards the end was difficult to arouse, and had incontinence of urine and feces. Macroscopically the central nervous system was negative. There was degeneration in the peripheral nerves involving the myelin sheathes and the axis cylinders, characterized by the appearance of small masses at different points in the myelin sheathes that stained black with osmic acid. The anterior roots of the central nervous system appeared to be intact. There was reason to believe that the process commenced in the peripheral portions of the nerves, and that the functional changes preceded the anatomical changes because in the brachial plexus no histological alterations of the nerves could be detected.

11. *Brachial Plexus Segmentation.*—Bikeles and Franke have undertaken to determine the segmental distribution of some of the nerves of the brachial plexus by resecting them in dogs, cats and rabbits, and then studying the changes in the spinal cord. When the radial, median, and ulner nerves were completely resected it was found that the sensory fibers passed into the cord at the level of the seventh and eighth cervical and first dorsal segments. When the median nerve was resected the changes were pronounced in the seventh and eighth cervical segments, and were present, but much diminished in the first dorsal segment. When the ulnar nerve was resected changes were found chiefly in the eighth cervical, and less distinctly in the first dorsal segments. When the radial nerve was resected the changes were found in the seventh and eighth cervical segments, but, excepting in the rabbit, were not present in the first dorsal segment. The Nissl method was employed for the determination of the motor segments. After resection of three nerves the same three segments were involved. The individual nerves showed the following distribution. The radial arose from the seventh and eighth cervical and first dorsal; the median, from the seventh cervical and first dorsal; and the ulner from the eighth dorsal. In all cases the degeneration was found only in the dorso-lateral group of cells of the spinal cord. This was true in the cords of both the cat and dog. In the rabbit and guinea pig the results were slightly different.

12. *Cerebral and Spinal Reflexes.*—Von Kornilow discusses the cerebral and spinal reflexes. Among the more recently described of these he mentions the scapulohumeral reflex, which, he believes, is about as valuable as the bicipital and tricipital reflexes. The supraorbital reflex, which he includes among the defensive reflexes, is particularly marked—in his experience—in cases of neurasthenia. The hypogastric reflex, which occurs in men as well as women, and therefore is not analogous to the cremaster reflex, is not more frequent than the abdominal reflex. The Babinski reflex, according to him, consists of an extension of the great toe; the other toes may be extended, remain quiet, or even be flexed. It may be produced by various other forms of irritation than merely stimulating the sole of the foot. In hemiplegics movements of the sound foot and leg may cause the reflex in the paralyzed one. Even in apparently normal persons it may be produced by voluntary movements, and in a case of tuberculous meningitis, in which it did not occur as a result of irritation of the sole of the foot, it was produced by strong pressure in the region of the quadriceps muscle, and affected both sides. It is probably due to some disturbance of innervation of the muscles. Two types may be distinguished; a weak type, in which only the great toe is extended, and a strong type in which all the toes are extended. It bears no distinct relation to the other reflexes, for it may exist when the knee-jerk is absent. Kornilow has described four cases in which careful microscopical examination of the pyramidal tract from the cortex to the sacral portion of the cord, failed to reveal any degeneration. Nevertheless, the Babinski phenomenon was present, and the absence of all symptoms of pyramidal disease excepting this, seemed to indicate some functional disturbance. It is of no value in the differential diagnosis of hysteria, because it may be present in hysterical cases. Kornilow then discusses the hypotheses that have been suggested to explain the loss of reflexes in total transverse lesion of the spinal cord above the reflex arc. He believes that none of the hypotheses are satisfactory, and that it behooves us to explain why in other cases in which this reflex arc is intact, the reflexes are lost. The nature of the tendon reflexes is still a subject of lively discussion. Von Kornilow agrees with Sternberg that there are bone and muscle reflexes. The bone reflex is a true reflex; the muscle reflex may be merely mechanical. The con-

tralateral reflex which was supposed to prove the spinal nature of the knee-jerk, may merely indicate that the shock to the bone is transmitted through the bony pelvis to the bone of the other side.

13. *Thermoanesthesia and Analgesia.*—Rossolimo has observed six patients in whom sensory disturbances were associated with focal disease of the pons and medulla. Briefly given they are as follows. The first, a man of forty-two years, had headache, vertigo, palpitation, vomiting and weakness of the right side of the face. Later he developed a cerebellar ataxic gait, Romberg's phenomenon, disturbance of swallowing, weakness of the muscles of mastication on the right side, and ataxia of the limbs on the right side. There was complete analgesia and loss of temperature sense on the left side of the body; the sensation of the mucous membrane was preserved. Second, a man of forty-five years, first noticed headache, vertigo, nausea, vomiting and hiccoughing. Later he developed headache of the right side, uncertainty of the movements of the extremities of the right side, ataxia in the right arm, with paresthesia and complete thermoanesthesia and analgesia of the right side of the body. Later there was cerebellar ataxia in walking. Third case, a man of sixty-five, first noticed headache, vertigo, vomiting, and constant hiccoughing. Later he developed numbness in the arms and legs, diplopia, cerebellar gait, Romberg's phenomenon, ataxia, and increase in the reflexes. Pain and temperature sense were completely lost on the right side. Fourth case, a man of sixty-seven years, first noticed vertigo, and indistinct speech. Later he had a cerebellar ataxic gait, pareses of the muscles supplied by the right facial nerve, and of some of the eye muscles, disturbance of swallowing, and diminution of the pain and temperature sense of the skin in the left half of the head and neck, the upper portion of the trunk, and the left arm. The fifth case, a man of forty-seven years, first noticed vertigo, nausea, vomiting, hiccoughing, and disturbance in swallowing. Later he had a slight aphonia, nystagmus, cerebellar ataxia chiefly of the left side, and profound diminution of the temperature and pain sense in the distribution of the left trigeminal nerve, and in the extremities of the left side and in the left half of the trunk. The sixth case, a man of sixty-four, first noticed vertigo, nausea, vomiting, hiccoughing, and formication in the left half of the face and left hand. Later there was profound diminution of the sensation for heat and pain in the extremities on the right side, and in the right half of the body. There was also melituria and diminution of the patellar reflexes. The most constant symptom in all these cases is the thermoanesthesia and analgesia, which may be unilateral or crossed. The other symptoms were ataxia, disturbance of the muscles of the eye, and some subjective sensory symptoms. There were also disturbances of the reflexes, some vasomotor and trophic disturbances and sometimes disturbances in the sensation of touch. The muscular sense was rarely disturbed. Paresis was not uncommon. Rossolimo concludes that in circumscribed lesions certain parts in the pons and medulla may cause dissociation of sensation similar to that of syringomyelia. Therefore, in these structures there must be special paths for the conduction of these forms of sensation.

14. *Multiple Sclerosis, Diagnosis.*—Pini reports a series of cases in which the diagnosis between multiple sclerosis and syphilis of the central nervous system was more or less difficult. The first, a man of forty-nine years, who had had syphilis, complained of vertigo, weakness, spastic paresis particularly in the right leg, disturbance of the bladder and rectum, intention tremor in the right leg, and an indication of intention tremor in the right arm. He regards it as a case of multiple sclerosis, although there was no nystagmus, and speech and the emotional condition are not mentioned. The second case was a woman of thirty-

nine, who had vertigo, diplopia, headache and vomiting. There was weakness in the legs and arms, and later she developed drawling speech, cerebellar ataxia, intention tremor of the arms, spastic pareses, and although there was no scanning speech and no nystagmus, and one of the pupils showed sluggish reaction to light, a diagnosis of multiple sclerosis was made. Third patient, a woman of thirty-two, had had pain in the back and around the waist. There was slight nystagmus, the Brown-Séquard syndrome, and some increase in the reflexes. The pupils were paler than normal. A diagnosis of syphilis of the central nervous system was made, although nothing in the history indicated syphilitic infection. There was some improvement upon specific treatment. Fourth case, a man of forty-two years, after an attack of influenza had vertigo, tremor in the hands, pain in the back and weakness. There was a spastic gait, no ataxia, and when examined, no tremors. There was some diminution of sensation in the right lower leg, and marked weakness in the left leg. Although the Brown-Séquard syndrome was present, the symptoms indicated multiple sclerosis more than they did cerebral syphilis. The fifth case, a woman of forty-four years, had noticed weakness in the left foot and pain in walking. There was slight difference in the pupils, but the reactions were normal. The pupillæ were pale. There was no nystagmus; some weakness in the left facial nerve, increase in the tendon reflexes, intention tremor of both hands, and a distinct Romberg's symptom. There was slight rigidity in the right leg which was very weak, and almost complete paralysis of the left leg. The symptoms are doubtful, but the case is probably one of multiple sclerosis. Sixth case, a man of thirty-four years, had had syphilis, and two years later suffered from attacks of vertigo. The patient subsequently developed distinct nystagmus; there was increase of the reflexes in the left arm, weakness of both hands, especially of the left, marked increase of the reflexes in the legs, especially of the left, and some disturbance in smell, taste, and hearing, the left side being weaker than the right in all three. This case presented considerable difficulty in diagnosis. There is certainly an organic condition, but the mixed left-sided hemiplegia cannot be ascribed to multiple sclerosis. Pini, therefore, assumes that the patient also had hysteria.

15. *Serratus Paralysis.*—Biro reports two cases of paralysis of the serratus muscle, the first apparently coming on without distinct cause; the second following an injury. In both cases the chief symptoms were inability to lift the arm, and the wing-like position of the scapula. He discusses the symptomatology of this condition, the differential diagnosis, which must be made from other conditions that cause winging of the scapula, speaks of the extreme infrequency with which it occurs, and then discusses the prognosis which is favorable in functional disease, and depends upon the cause in other conditions. The treatment consists in the removal of the cause, if this is possible, and in encouraging patients in whom the condition is purely functional, to contract the muscle.

16. *Scartissue and Neuroglia.*—After discussing the literature of the subject, Müller describes the histological changes in five patients with scars in the brain. The tissues were stained differentially for neuroglia, connective tissue, and elastic fibers. The results showed that the neuroglia has a very considerable capacity for regeneration. It behaves exactly as the connective tissue in other organs, that is to say, whenever the true nervous tissue is destroyed it proliferates to supply the defect. This proliferation appears to be chiefly of the fibers which are present in this scar tissue in enormous numbers. The connective tissues also takes part in the proliferation, but not to the same extent as the neuroglia does. It has a tendency not to proliferate in those areas in which the

neuroglia proliferates, but is apt to remain outside the central nervous system.

17. *Huntington's Chorea.*—Müller contributes a new family tree of hereditary chorea. The great-grandfather died at the age of fifty-two years, of unknown cause; the grandfather died at the age of sixty-eight years, and had some irregular movements of the limbs; a son by his first wife died at the age of forty-six and had twitchings of the extremities. Of two children by the second wife one died at fifty-seven, and it is not certain whether chorea existed; the other is living at sixty years of age and has had chorea for sixteen years. The son by the first wife had eight children. Of these the second has had chorea for three years. One other has epilepsy. The others are healthy or dead, and several of them have healthy children. He describes the case of the second son, and also two other cases, both of which are fairly typical. The second of these, a man of forty-seven years, appears to be the first in his family who has ever had the choreic movements. The third was a step-sister of the father of the first case described, who had had chorea.

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MONATSCHRIFT FUER PSYCHIATRIE UND NEUROLOGIE

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1. A Contribution to Polyneuritis. H. di Gaspero.
2. A Case of Elementary General Somatopsychosis. O. Foerster.
3. Hallucinatory Insanity in Diseases of the Organs of Hearing. V. Bechterew.
4. Contribution to the Knowledge of the Amnesic Disturbances After Attempts at Strangulation. M. Sommer.
5. A Simple Apparatus for Measuring Attention. T. Ziehen.
6. Report upon the 28th Traveling Association of the Neuroligists and Alienists of the Southwest Part of Germany on the 23rd and 24th of May, 1903, in Baden-Baden. R. Laudenheimer.

1. *Polyneuritis.*—Di Gaspero reports an interesting case occurring in a peasant and the result of hysteria. He was a strong drinker and the disease had commenced after a prolonged debauch, during which he had been chilled. There were pains, diarrhea, nausea, prostration, vertigo and progressive weakness of the legs. Both legs finally became completely paralyzed; the patient was profoundly apathetic. In the course of the disease various muscles became completely paralyzed, as for example, the abducens. There were muscular atrophies, tenderness in the head, trunk and limbs, increased reflexes with patellar and ankle clonus, ataxia, and bilateral papillitis of the optic nerves. There were from time to time severe pains in the region of the trigeminus. At the end of 12 weeks improvement commenced, and at the end of 20 weeks the patient recovered. Gaspero discusses the nature of this case which he regards as one of toxemia giving rise to polyneuritis and Korsakow's psychosis. He discusses various interesting symptoms of the case, the possibility of tumor, and superior hemorrhagic polioencephalitis. He concludes, however, that it is really a form of neuromyositis with involvement of the optic nerves.

2. *Somatopsychosis.*—A woman of forty-nine years, had from the age of sixteen, periods during which she seemed to have difficulty in recognizing objects. As she grew older these were associated with imperative occupation of her mind with the appearance of persons or objects. There was also a sense of pressure upon and emptiness within the head. The special sensations were entirely normal. All forms of touch sense were preserved and were normal. The case progressed;